Title (en)

Laser diode array comprising a serial circuit made of pairs of a laserdiode and a bypass diode in parallel

Title (de)

Laserdiodenarray bestehend aus einer Hintereinanderschaltung von jeweils einer Laserdiode mit einer parallel geschalteten Überbrückungsdiode

Title (fr)

Barrette de diodes laser comprenant une cascade d'une diode laser en parallèle avec une diode

Publication

EP 1450454 A1 20040825 (EN)

Application

EP 04003753 A 20040219

Priority

JP 2003040932 A 20030219

Abstract (en)

A semiconductor laser device in a semiconductor-laser excited solid-state laser apparatus is provided with a plurality of semiconductor laser diodes (10) connected in series to one another. Each of a plurality of bypass diodes (60) is connected in parallel to each semiconductor laser diode or each group of at least two semiconductor laser diodes in the plurality of semiconductor laser diodes and has a higher rising voltage than a rising voltage of the parallel-connected semiconductor laser diodes. The polarity of one end of each of the semiconductors laser diode is the same as the polarity of that end of the associated bypass diode which is connected to the one end of that semiconductor laser diode and the polarity of the other end of the semiconductor laser diode is the same as the polarity of that end of the associated bypass diode which is connected to the other end of that semiconductor laser diode. This structure accomplish continuous light emission with a simple and compactable circuit structure even if one or more semiconductor laser diodes are disconnected, thereby making the semiconductor laser device highly reliable. <IMAGE>

IPC 1-7

H01S 5/026; H01S 5/40

IPC 8 full level

H01S 3/04 (2006.01); **H01S 3/091** (2006.01); **H01S 3/094** (2006.01); **H01S 5/00** (2006.01); **H01S 5/024** (2006.01); **H01S 5/026** (2006.01); **H01S 5/042** (2006.01); **H01S 5/40** (2006.01)

CPC (source: EP US)

H01S 5/02423 (2013.01 - EP US); **H01S 5/4025** (2013.01 - EP US); H01L 2224/48137 (2013.01 - EP US); H01S 5/02438 (2013.01 - EP US); H01S 5/042 (2013.01 - EP US); H01S 5/06825 (2013.01 - EP US); H01S 5/4018 (2013.01 - EP US)

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Designated contracting state (EPC)

DE FR

DOCDB simple family (publication)

EP 1450454 A1 20040825; JP 2004253525 A 20040909; US 2004161011 A1 20040819; US 7130323 B2 20061031

DOCDB simple family (application)

EP 04003753 A 20040219; JP 2003040932 A 20030219; US 77964504 A 20040218